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# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)



Applicant's or agent's file reference IML/45788.WO01	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/GB 03/02341	International filing date (day/month/year) 29.05.2003	Priority date (day/month/year) 31.05.2002
International Patent Classification (IPC) or both national classification and IPC G01N21/03		
Applicant E2V TECHNOLOGIES LIMITED et al.		

- This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 5 sheets, including this cover sheet.
  - ☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of    sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the opinion
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☒ Lack of unity of invention
- V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand  30.12.2003	Date of completion of this report  17.08.2004
Name and mailing address of the international preliminary examining authority:   European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer  Stuebner, B Telephone No. +49 89 2399-2179 

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/GB 03/02341

**I. Basis of the report**

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

**Description, Pages**

1-12 as originally filed

**Claims, Numbers**

1-25 as originally filed

**Drawings, Sheets**

1/6-6/6 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).  
☐ the language of publication of the international application (under Rule 48.3(b)).  
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority in written form.  
☐ furnished subsequently to this Authority in computer readable form.  
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.  
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:  
☐ the claims, Nos.:  
☐ the drawings, sheets:

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

**IV. Lack of unity of invention**

1. In response to the invitation to restrict or pay additional fees, the applicant has:

- ☒ restricted the claims.  
☐ paid additional fees.  
☐ paid additional fees under protest.  
☐ neither restricted nor paid additional fees.

2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.

3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is

- ☐ complied with.  
☐ not complied with for the following reasons:

4. Consequently, the following parts of the international application were the subject of international preliminary examination in establishing this report:

- ☐ all parts.  
☒ the parts relating to claims Nos. 1-5,9-25 .

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Yes: Claims	2-5,9-25
	No: Claims	1
Inventive step (IS)	Yes: Claims	
	No: Claims	1-5,9-25
Industrial applicability (IA)	Yes: Claims	1-5,9-25
	No: Claims	

2. Citations and explanations

see separate sheet

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**Re Item IV**

**Lack of unity of invention**

1. Answering to the invitation to restrict or pay additional fees "the applicant requested that the examination proceed on the basis of claim 1"; see his letter dated 17.03.2004.

**Re Item V**

**Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

2. The following documents (D) are referred to in this report:

D1: EP-A-0825430

D2: US-B1-6194735

D3: US-A-5009493

3. In D1 (see e.g. col.3, l.37 to col.5, l.13; Fig.1-3) a gas sensor is described comprising all features corresponding to Claim 1.

It should be noted that according to D1 the IR-source 5 as well as the detector 6 are located at foci defined by the adjacent curved surfaces 7 and 8, which are parts elliptical in sections. The object of such an arrangement is to provide an optical path such that only light from a predetermined directional range is detected. The physical principle for this effect is clear: if e.g. a parallel beam is sent along the axis of the ellipsoid the light is focussed on the detector arranged at the focus of the ellipsoid. If a beam is tilted by a certain angle with regard to the above axis, this beam may also be focussed onto the detector, especially when the divergence of the beam and the tilting angle are selected correspondingly. This is the case in Figure 1 of D1 and therefore, in principle, "only light transmitted through the optical path via the at least two reflective surfaces is detected by the detector" described in D1.

No additional feature is disclosed in present Claim 1.

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Also from D2 (see e.g. col.7, l.27 to col.11, l.8; Fig.1-8) or from D3 (see e.g. col.1, ll.6-12; col.2, ll.32-49; Fig.1) all essential features of Claim 1 are known.  
Thus, Claim 1 lacks novelty.

4. In Claims 2-5 and 9-25 only slight constructional changes in the sensor of Claim 1 are defined which come within the scope of the customary practice followed by persons skilled in the art (see also the documents cited in the Search report), especially as the advantages thus achieved can readily be foreseen.  
Consequently, these dependent claims do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty and/or inventive step.
5. If, in spite of the above-mentioned objections, the applicant wishes to proceed further in the regional phase, the following additional points should be noted, i.e. the corresponding amendments provided:
  - 5.1 Documents D1 to D3 should be mentioned and their contents briefly commented on in the introductory part of the description.
  - 5.2 The introductory part of the description should contain statements agreeing with any independent claim submitted.
  - 5.3 Any new independent claim should be submitted in the two-part form set out in Rule 6.3 (b) PCT.
  - 5.4 In the new set of claims reference signs should be inserted in brackets following those features which are so numbered in the figures (Rule 6.2 (b) PCT).
  - 5.5 If new features are taken into the claims, Article 19 (2) of the PCT should not be infringed and it would probably accelerate the examining process if it were indicated from which part of the application any such features are taken.

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